IN THE CLAIMS:

1   1. A method of handling a computer task using an intelligent agent, the
2   method comprising the steps of:
3   (a) based upon an objective criteria, selecting at least one selected program
4   module from a plurality of program modules having varied degrees of domain
5   knowledge, wherein the plurality of program modules are configured to handle a
6   common computer task; and
7   (b) configuring an intelligent agent to execute the at least one selected
8   program module to handle the computer task.

1   2. The method of claim 1, wherein the intelligent agent includes only the
2   selected program module from the plurality of program modules, and wherein the
3   configuring step includes the step of constructing the intelligent agent using the
4   selected program module.

1   3. The method of claim 1, wherein the intelligent agent includes each of the
2   plurality of program modules, and wherein the configuring step includes the step of
3   configuring the intelligent agent to execute only the selected program module to
4   handle the computer task.

1   4. The method of claim 1, wherein the selecting step is performed by the
2   intelligent agent.

1   5. The method of claim 1, wherein the selecting step is performed by an agent
2   manager.

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    6. The method of claim 1, wherein the plurality of program modules are additive program modules, and wherein the selecting step includes the step of selecting a subset of the plurality of program modules to handle the computer task.

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    7. The method of claim 1, wherein the plurality of program modules are alternative program modules, and wherein the selecting step includes the step of selecting only one of the plurality of program modules to handle the computer task.

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    8. The method of claim 1, wherein the selecting step includes the step of adaptively selecting the selected program module using a reinforcement learning algorithm.

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    9. The method of claim 8, further comprising the steps of:

    (a) obtaining performance information relating to the performance of the selected program module in handling the computer task; and

    (b) supplying the performance information to the reinforcement learning algorithm.

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    10. The method of claim 8, wherein the reinforcement learning algorithm is implemented in an adaptive heuristic critic neural network.

1   11. The method of claim 1, wherein the selecting step includes the steps of:

2   (a) matching each of the plurality of program modules with a value of the

3 objective criteria;

4   (b) determining a selected value of the objective criteria; and

5   (c) selecting as the selected program module a program module matching the

6 selected value of the objective criteria.

1   12. The method of claim 11, wherein the selecting step further includes the

2 step of retrieving information for a selected computer task, wherein the determining

3 step determines the selected value of the objective criteria using the retrieved

4 information.

1   13. The method of claim 1, wherein the intelligent agent is configured to

2 conduct negotiations in an electronic commerce application, and wherein the domain

3 knowledge for each of the plurality of program modules is related to the autonomy

4 delegated thereto.

1   14. The method of claim 13, wherein the plurality of program modules

2 includes a semi-autonomous program module, a fully-autonomous program module,

3 and a fully-dependent program module.

1   15. The method of claim 13, wherein the objective criteria includes a risk that

2 a dispatched agent is subjected to in negotiations.

1   16. An apparatus for handling a computer task, comprising:

2   an intelligent agent including at least one of a plurality of program modules

3 having varied degrees of domain knowledge, wherein the plurality of program modules

4 are configured to handle a common computer task, and wherein, based upon an

5 objective criteria, at least one selected program module from the plurality of program

6 modules is selected to handle the computer task.

1   17. The apparatus of claim 16, further comprising an evaluation module

2 configured to select the selected program module based upon the objective criteria.

1   18. The apparatus of claim 17, further comprising a reinforcement learning

2 module, coupled to the evaluation module and configured to adaptively select program

3 modules based upon the performance of the plurality of program modules in handling

4 the computer task.

1   19. The apparatus of claim 18, wherein the reinforcement learning module

2 comprises an adaptive heuristic critic neural network.

1   20. The apparatus of claim 17, wherein the evaluation module is configured to

2 retrieve information for a selected computer task, determine a selected value for the

3 objective criteria for the selected computer task, and select as the selected program

4 module one of the plurality of program modules which is matched with the selected

5 value of the objective criteria.

1   21. The apparatus of claim 17, wherein the evaluation module is implemented

2 in an agent manager.

1   22. The apparatus of claim 17, wherein the evaluation module is implemented

2   in the intelligent agent.

1   23. The apparatus of claim 17, wherein the intelligent agent includes only the

2   selected program module from the plurality of program modules, and wherein the

3   evaluation module is configured to construct the intelligent agent using the selected

4   program module.

1   24. The apparatus of claim 17, wherein the intelligent agent includes each of

2   the plurality of program modules, and wherein the evaluation module is configured to

3   execute only the selected program module to handle the computer task.

1   25. The apparatus of claim 17, wherein the plurality of program modules are

2   additive program modules, and wherein the evaluation module is configured to select a

3   subset of the plurality of program modules to handle the computer task.

1   26. The apparatus of claim 17, wherein the plurality of program modules are

2   alternative program modules, and wherein the evaluation module is configured to

3   select only one of the plurality of program modules to handle the computer task.

1   27. The apparatus of claim 16, wherein the intelligent agent is configured to

2   conduct negotiations in an electronic commerce application, and wherein the domain

3   knowledge for each of the plurality of program modules is related to the autonomy

4   delegated thereto.

1   28. The apparatus of claim 27, wherein the plurality of program modules

2   includes a semi-autonomous program module, a fully-autonomous program module,

3   and a fully-dependent program module.

1   29. The apparatus of claim 27, wherein the objective criteria includes a risk

2   that a dispatched agent is subjected to in negotiations.

1   33. A method of handling a computer task on a remote computer system using

2   an intelligent agent, the method comprising the steps of:

3   (a) determining a risk for the remote computer system;

4   (b) based upon the risk for the remote computer system, selecting at least one

5   selected program module from a plurality of program modules having varied degrees

6   of domain knowledge, wherein the plurality of program modules are configured to

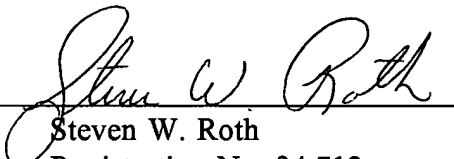7   handle a common computer task in the remote computer system; and

8   (c) configuring an intelligent agent to execute the at least one selected program

9   module to handle the computer task.

1   34. The method of claim 33, further comprising the step of matching each of

2   the plurality of program modules with a risk level.

1   35. The method of claim 34, wherein the matching step includes the step of

2   adaptively matching each program module based upon the actual performance of the

3   plurality of program modules.

Respectfully submitted,

By:_____

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